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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|----------------------------|------------------|
| 10/662,596 | 09/15/2003 | James B. Cho | TI-34685 (UNITI-169XX) | 2358 |
| 23494 7590 04/06/2007 TEXAS INSTRUMENTS INCORPORATED P O BOX 655474, M/S 3999 DALLAS, TX 75265 | | | EXAMINER LE, DINH THANH | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2816 | |
| SHORTENED STATUTORY PERIOD OF RESPONSE | | MAIL DATE | DELIVERY MODE | |
| 3 MONTHS | | 04/06/2007 | PAPER | |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

| | | | |
|------------------------------|-----------------|--------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/662,596 | CHO ET AL. | |
| | Examiner | Art Unit | |
| | DINH T. LE | 2816 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 March 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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NON-FINAL REJECTION

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/15/07 has been entered.

The rejections over Amick et al (US 6,650,157) and Masenas et al (US 6,525,615) are withdrawn in view of the amendments to the claims.

Claim Rejections***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

DL

Claims 1-~~24~~ are rejected under 35 USC 102 (b) as being anticipated by Hampel et al (US 2003/0117864).

Hampel et al discloses in Figures 21, 25, 37 and 40 a circuit comprising:

- a phase generator(Figure 21) configured to generate a first predetermined

number of phases of the source clock signal, the phases of the source clock signal defining a plurality of phase sectors;

- a phase selector (4002, 4004, Figure 40) configured to select respective pairs of the phases of the source clock signal, each selected pair of phases bounding a respective one of the phase sectors; and
- a differential phase interpolator (4010) receiving at least one of the respective pairs of the phases of the source clock, wherein the phase interpolator is operable to combine the at least one of the respective pairs of the phases of the source clock to generate the output clock signal (1, Figure 40), and wherein the output clock signal has at least one clock cycle inserted into the source clock signal, see page 20.

Wherein the phase generator is configured to generate a predetermined number P of phases of the source clock signal, the P phases of the source clock signal defining P phase sectors, wherein the phase interpolator (4010) is configured to introduce at least one phase of the source clock signal between each pair of phases to provide a predetermined number Q of phases of the source clock signal within each phase sector, the phase interpolator being further configured to successively output the phases of the source clock signal to produce lagging or leading phase shifts of about $360/P(Q-1)$ degrees to derive the output clock signal having the stepped up or stepped down frequency.

Wherein a control circuitry is configured to control the phase selector and the phase interpolator (4010), the control circuitry including a state machine (2010, Figure

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37) having a plurality of states, the phase interpolator being configured to successively output the phases of the source clock signal based on the plurality of states

Wherein each state corresponds to a respective combination of sector codes and thermometer codes, each sector code corresponding to a respective one of the phase sectors, each thermometer code corresponding to a weight that each one of the first predetermined number of phases of the source clock signal contributes to the derivation of the output clock signal.

Wherein the phase generator is selected from the group consisting of a ring oscillator and a coupled LC oscillator, (PLL 2015, 2060, Figure 21).

Response to Applicant's Arguments

The applicant's arguments over Masenas and Amick are persuasive without traverse.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DINH T. LE whose telephone number is (571) 272-1745. The examiner can normally be reached on Monday-Friday (8AM-7PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, ROBERT PASCAL can be reached at (571) 272-1769.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

3/28/07



DINH LE
Primary Examiner